REMARKS

Claims 1-29 are currently pending. No amendments to the claims have been made.

Section 103

Claims 20-29 have been rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,764,475 to Bialke et al. ("Bialke"). This rejection is respectfully traversed.

In order to establish a *prima facie* case of obviousness, (1) all elements of a claim exist in the prior art, (2) there must be some rationale for combining or modifying those teachings such as a motivation to combine, and (3) must include either an expectation of success or predictable results.

Independent claim 20 is directed to a film prepared from an ionomeric urea/urethane polymer comprising (a) repeating units derived from an aliphatic polyester polyol, and (b) repeating units derived from a polyisocyanate. The polymer contains less than about 2 mole % of urea units described by the formula – R-N(R^2)-C(O)-N(R^2)-R^1, where R^1 is a C_1-C_{20} aliphatic hydrocarbon radical. In order for R^1 to be a C_1-C_{20} aliphatic hydrocarbon radical, either an aliphatic diamine such as ethylenediamine as a chain extender or an aliphatic polyisocyanate must be used. The present invention has achieved films which are suitable for use in gloves prepared from an ionomeric urea/urethane polymer without the use of a diamine chain extender.

Bialke is not directed to polyureaurethane films, but is instead directed to polymers and polymer blends which include step (1) a polymer in latex or dispersion form based on alkylene oxide and (2) one or more other polymer latexes or dispersions which may include polyurethane. Bialke refers to U.S. Patent No. 6,017,997 to Snow et al. ("Snow") for the disclosure of water-borne polyurethane, polyurea, and poly(ureathane-urea) dispsersions ("PUD"). Bialke then generically describes some componenents which may be included in PUDs. For example at column 8, lines 42-44, Bialke states, "Generally PUD comprises polymerized units of diisocyanate and hydrophilic moiety, together whith diol, diamine, or both diol and diamine." Bialke does not disclose the preparation of a polyurethaneurea dispersion prepared without the addition of a diamine chain extender and does not disclose that water may be used as a chain extender.

The Examiner has relied on the generic teaching of "PUD" for allegedly showing that an ionomeric urea/urethane polymer is prepared without the use of a diamine chain extender as in the present claims. However, none of the elements of Claim 20 are present in this disclosure. Specifically, Bialke does not disclose an ionomeric urea/urethane polymer having the claimed urea concentration limitation.

The Examiner has alleged that it would have been obvious to one of ordinary skill in the art to adjust the amount of the diamine chain extender in order to achieve the specific urea concentration of claim 20. Although using different amounts of a chain extender will result in a different urea groups, the limited urea group of claim 20 is accomplished by primarily using water as the chain extender, which Bialke fails to disclose.

Based on the PUD disclosure included in Bialke, there is no disclosure or teaching of a polyurethaneurea prepared in the absence of a diamine chain extender. The only teaching is that diamine chain extenders are generally included in polyurethane dispersions. Furthermore, there is no disclosure that water may be used as the chain extender in preparation of an ionomeric urea/urethane composition. Since Bialke provides no disclosure of a PUD prepared in the absence of a diamine chain extender, Bialke only discloses aliphatic diamine chain extenders (column 9, lines 12-15), and Bialke fails to teach water as a chain extender, the urea concentration of Claim 20 would not be possible following the teachings of Bialke.

Moreover, it is possible that one would look to the source of the PUD information disclosed in Bialke, for further teaching of the diamine chain extender. As stated above, the PUD disclosure is from Snow. In Snow, it is very clear that an amine chain extender is required. Specifically, Snow states at column 2, line 62 to column 3, line 3:

> The polyurethane comprises the reaction product of (a) a polyisocyanate component; (b) an active hydrogen containing component, such as a polyol or a polyamide; and (c) a water-solubilizing compound having water-solubilizing groups to form an isocyanate terminal prepolymer, which is neutralized by reaction with a tertiary amine, dispersed in water, and the reaction product is then ***chain extended by reaction with a primary or secondary amine***. (emphasis added).

One following these teachings set forth in Snow, would include a diamine chain extender in a urea/urethane composition and would be outside the claimed urea concentration of Claim 20.

With respect to claim 29, Bialke also fails to disclose a glove.

Since Bialke fails to disclose the claimed urea concentration and fails to provide any rationale for modifying the urea concentration, Bialke fails as a proper reference under Section 103. Reconsideration and withdrawal of the rejections of Claims 20-29 are respectfully requested.

Claims 1-19, 23, and 25 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Bialke in view of U.S. patent No. 5,008,325 to Soto et al. ("Soto") or U.S. Patent No. 3,404,131 to Taub ("Taub"). These rejections are respectfully traversed.

Soto and Taub are cited only for their inclusion of a copolymer of tetrahydrofuran and an alkylene oxide. However, Soto and Taub fail to over come the deficiencies of Bialke as a proper anticipatory reference or establishing a *prima facie* case of obviousness for failing to disclose every element of the present claims.

Claims 1-19, 23, and 25 all have the common feature of including a polymer having a urea concentration of described by the formula – R-N(R^2)-C(O)-N(R^2)-R^1, where R^1 is a C_1-C_{20} aliphatic hydrocarbon radical of about 2 mole% or less. Bialke fails to disclose this element as set forth above. Neither Soto nor Taub provides any disclosure, teaching, or suggestion of the urea concentration. Furthermore, the urea concentration would not be provided by either Soto or Taub considering that both references provide for chain extension using a diamine chain extender. As such both Soto and Taub are outside the urea concentration range as set forth in the claims.

Since the combination of Bialke with either Soto or Taub fails to teach every element of the present claims, Applicants respectfully submit those reference fail to establish a *prima facie* case of obviousness with respect to claims 1-19, 23, and 25. Therefore, reconsideration and withdrawal of the rejections under Section 103 are appropriate and respectfully requested.

Claims 1-29 have been rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent Publication No. 2003/0225239 to Nakamura et al. ("Nakamura"). This rejection is respectfully traversed.

As stated above, the claims required a urethane/urea polymer including less than 2 mole % of urea units described by the formula – R-N(R^2)-C(O)-N(R^2)-R^1, where R^1 is a C_1-C_{20} aliphatic hydrocarbon radical. R^1 is a C_1-C_{20} aliphatic hydrocarbon radical where an aliphatic diame chain extender is used. The Examiner has stated that the "although Nakamura does not specifically teach the amount of urea to be less than 2 mole %, the reference dies teach that the amount of urea depends on the amount of polyamide used." The total amount of urea units with respect to the polymer is not addressed in the present claims. The present claims require that of the urea units present, 2 mole percent of urea units include the R^1 component described above.

Nakamura fails to disclose a urethane/urea polymer where 2 mole percent of the urea units are as described above. The reason is that Nakamura requires at paragraph [0133] that the polyamine be reacted with the unsaturated compound (b), which is the reaction product of the polyol and isocyanate. The polyamine and unsaturated compound (b) are reacted by Michael Addition Reaction to provide compound (B). "The amine compound (B) is used as the starting material for the urea-forming reaction." The result of this reaction is a urea-urethane polymer that has 100% urea groups including the R^1 as described above, unlike the present invention which has less than 2 mole percent.

Accordingly, reconsideration and withdrawal of the rejections of claims 1-29 in view of Nakamura are appropriate and respectfully requested.

CONCLUSION

For the reasons stated above, claims 1-29 are believed to be in condition for allowance. Accordingly, Applicants respectfully request that the Application be allowed. If prosecution may be further advanced, the Examiner is invited to telephone the undersigned to discuss this application.

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Respectfully submitted,

Christina W. Geerlof

Christina W. Geerlof
Attorney for Applicants
Registration No.: 45,690
Telephone: 302 683-3314
Facsimile: 302 683-3473